

**Claims:**

1 A Universal Mobile Telephone System (UMTS) comprising a Core Network operating Multi-Protocol Label Switching, the network including a plurality of Label Switching Routers; at least one Gateway

5 General Packet Support Node (SGSN); at least one Serving General Packet Radio Support Node; a plurality of Radio Network Controllers associated with said SGSN; and a plurality of Node Bs associated with each said controller; all Nodes and Controllers operating User Data Protocol/Internet Protocol, wherein a first Multi-Protocol Label Switching Edge Node is located in the

10 GGSN.

2 A UMTS according to Claim 1 in which a second MPLS Edge Node is located in at least one SGSN.

3 A UMTS according to Claim 1 in which a second MPLS Edge Node is located in each Radio Network Controller.

15 4 A UMTS according to Claim 3 in which the at least one SGSN is arranged as a MPLS Label Switching Router.

5 A UMTS according to Claim 1 in which a second MPLS Edge Node is located in each Node B.

6 A UMTS according to Claim 5 in which the at least one SGSN

20 and each Radio Network Controller is arranged as a MPLS Label Switching Router.

7 A UMTS according to Claim 1 in which in the protocol stacks of the GGSN, and in the protocol stacks of the SGSN or the RNCs or the Node Bs when acting as a MPLS Edge Node, the MPLS protocol is located in a

25 protocol layer immediately below the User Data Protocol/Internet Protocol layer.

8 A UMTS according to Claim 1 in which each MPLS Edge Node is arranged either to encapsulate IP packets into MPLS frames or to strip MPLS frames from IP packets.

30 9 A UMTS according to Claim 1 arranged so that routes between any two network entities are associated with labels distributed throughout the

network in Label Information Base stores.

10 A UMTS according to Claim 9 in which each Label Switching Router is arranged to look up a Label Information Base store to determine the appropriate route to a next network entity.